TRIM LINE

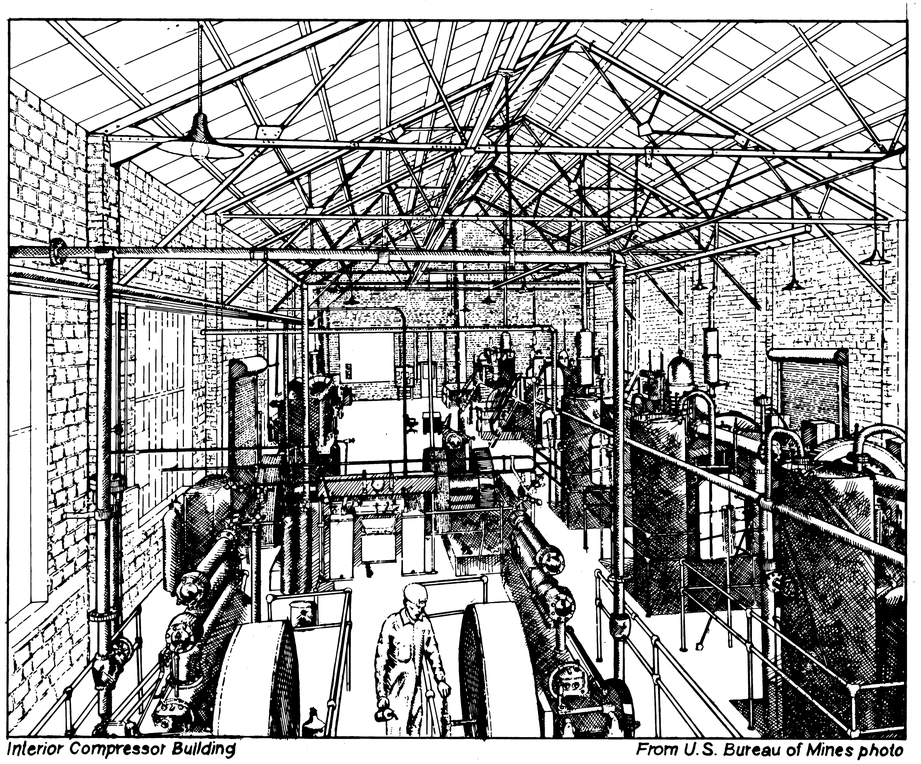
AMARILLO HELIUM PLANT

U.S. Bureau of Mines, Amarillo Texas

The U.S. Bureau of Mines began construction of the Amarillo Helium Plant in 1928, completing it the following year. The U.S. Navy and Bureau of Mines chose the site because of its accessibility to the Cliffside field, a helium-containing natural gas supply located a few miles north of the facility. The Amarillo plant served as the principal helium production facility, serving U.S. national defense needs until 1943. The Amarillo plant was the key research and development center of the entire Helium Activities program until 1996.

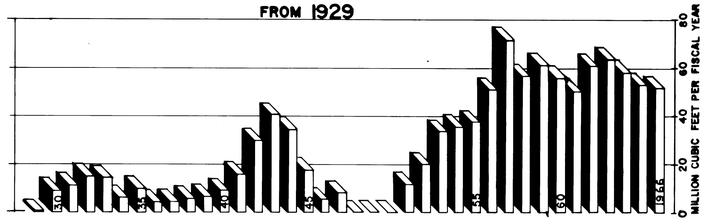
During the mid-1920s, the U.S. Navy recognized the need for a long-term helium production and research facility. The Navy proposed to move the helium operations from Fort Worth to Amarillo, Texas. The Petrolia gas field near Fort Worth was nearly exhausted thus requiring a new site for the federal program. Similarly, the Navy's Cryogenics Laboratory in Washington, D.C. was housed in the basement of the Commerce Department building. The move to Amarillo would consolidate helium operations and research at one location.

Located in Soncy, on the western edge of Amarillo, the new site had several advantages over other potential locations. First, the site was located on the Rock Island Railroad as well as U.S. Highway 66, a major east-west thoroughfare. Second, a local landowner exchanged the 18.5-acre site (at Soncy) to the Bureau of Mines in return for the cost to drill his water well. Most importantly, the 50,000-acre Cliffside gas field could supply a new plant with substantial quantities of helium-laden natural gas. With proven reserves greater than both the Petrolia and Nocona fields, Cliffside was a virgin field that held twice the amount of helium and promised an anticipated lifespan of more than 100 years at 1920s demands. Despite opposition from the Navy, R. A. A"Shorty" Cattell of the Bureau of Mines, moved forward with the Amarillo construction project.

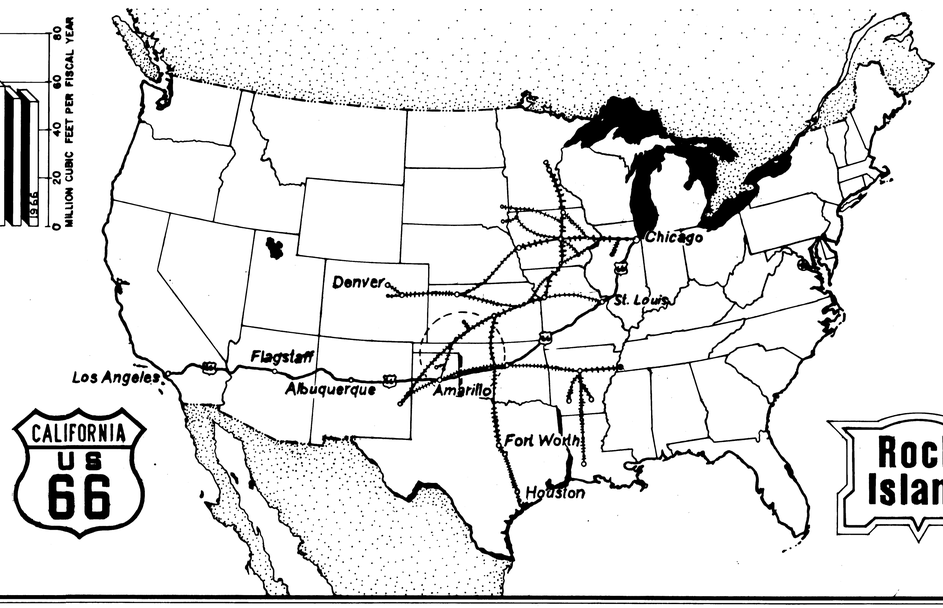


Interior Compressor Building *From U.S. Bureau of Mines photo*

AMARILLO HELIUM PLANT PRODUCTION FROM 1929



This recording project is part of the Historic American Engineering Record (HAER), a long-range program to document historically significant engineering, and industrial works in the United States. The HAER program is administered by the National Park Service, U.S. Department of the Interior. The Bureau of Mines Helium Activities recording project was co-sponsored beginning in 1998 through summer of 2001 by the Bureau of Land Management under the supervision of John Litchfield, Chief of the Division of Closure Operations, Amarillo field office, and the National Park Service, Intermountain Support Office Santa Fe, under the direction of Dr. Robert Spude, Chief, Cultural Resources and National Register Programs.

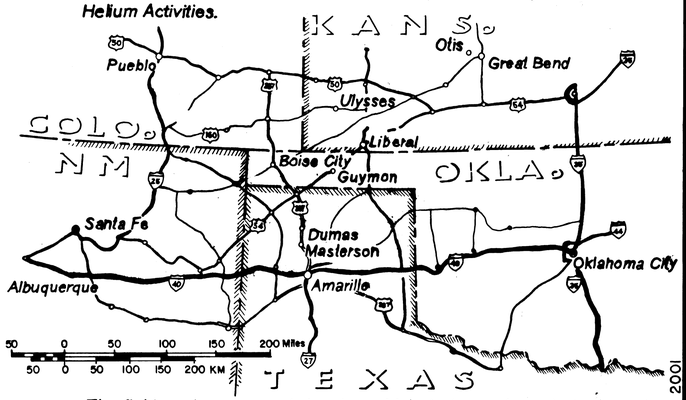


During 1928-29, James T. Taylor & Company of Fort Worth erected the initial buildings at the Amarillo Helium Plant. Meanwhile, George Erlandson, installed the first low-temperature, cryogenics equipment. Dr.Clifford W. Seibel was named the plant's first superintendent, and William M. Deaton assumed charge of the laboratory staff. With its completion in 1929, the Amarillo plant became the world's only helium production facility.

The original Amarillo Helium Plant consisted of the administration building, laboratory, power house, separation and carbon dioxide removal unit buildings, A garage, machine, welding, carpentry and instrument shops, and a loading dock, plus additional minor structures.

Once operational, the Amarillo plant produced 24 million cubic feet (mmcf) of helium at 98 percent purity, the highest possible grade produced at that time. Helium's use in dirigibles directly linked the Amarillo plant to the Navy's national defense program. Despite the economic difficulties of the Great Depression and the tragic loss of the Navy's two main airships, the Akron and the Macon, the facility continued production, although a much lower rate.

From its inception in 1929, the Amarillo Helium Plant supplied the Navy's demands for helium. During which time Bureau of Mine's research scientists developed improved technologies, such as high pressure nitrogen for super cooling incoming gas, as well as new uses like heliarc welding. These achievements made the Amarillo plant the focal point for helium production through 1943, after which time it remained the government's chief research and development facility for the U.S. Helium Activities.



The field work, measured drawings, historical reports and photographs were prepared under the direction of the National Park Service, Intermountain Support Office, Santa Fe with assistance from Dave Cornelius Technical Services Chemist, and Kelly Eslinger Closure Team Leader Amarillo Plant, Amarillo,Texas.The recording team consisted of Supervisory Architect Barry Sulam, AIA, project leaders: Joseph Thomas (Montana State University), and Todd Delyea (University of Idaho); architects Lucas Dupuis (Montana State University), Thomas Cheney (Montana State University), Dominggus Paliling (Montana State University), Joe Snider (University of Oregon), Suzanne Rowe Covington (Cal State Polytechnic), and Jon Gamel (Texas Tech University). Dr. Art Gomez, Regional Historian, Santa Fe, assisted by Dr. Christopher Huggard (Northwest Arkansas Community College), provided the historical reasearch and written narrative for the project. Formal photography was completed by John Hantulla.

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POTTER COUNTY
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AMARILLO

HELIUM ACTIVITIES RECORDING PROJECT
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

DELINEATED BY: TOM CHENEY & TODD DELYEA 2001

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